

REMARKS

Claims 1-69 are pending. In this Preliminary Amendment, the abstract, specification and claims have been amended to improve clarity, and claims 10-69 have been added to further explicate and clarify various features of the invention. No new matter has been added.

In the '270 application, the Office Action dated September 15, 1993, rejected claim 1 under 35 U.S.C. § 102(b) as being anticipated by *Hamilton* (U.S. Patent No. 5,041,932). In sustaining this rejection, the Examiner stated the following:

Hamilton shows in figure 1 a recording head 20 for reading and writing information with respect to a rotating disk medium. The head includes a pad region 22 having a working surface which contacts said medium during the reading/writing process, a magnetic pole embedded within said pad region (numeral 22 in figure 2), said pad region having a leading edge and a trailing edge with said leading edge facing in the general direction of relative motion between said head and said medium, and the leading edge has a narrower width than said trailing edge. (Pages 3-4.)

In *Hamilton*, read/write/head/flexure/conductor structure 20 includes main pole 22. Figure 1 is a working-side perspective (slightly rotated) which primarily shows the bottom side of structure 20, where A is the length, B is the width, C is a thickness, and D is a somewhat greater thicknesses. Figure 2 is an enlarged longitudinal lateral cross-section of the structure of Figure 1, and Figure 3 is a plan view generally taken from the bottom side of Figure 2. The pad region 22 the Examiner refers to appears to be the enlargement, with thickness D, which can be thought of as the read/write working end of the structure (col. 3, lines 35-39). As clearly seen in Figures 1 and 3, the read/write working end has leading and trailing edges with identical widths. Thus, the Examiner's assertion that the read/write working end has a leading edge with a narrower width than its trailing edge is completely unsupported.

The Office Action also rejected claim 2 under 35 U.S.C. § 103 as being unpatentable over *Hamilton* in view of *Verdone* (U.S. Patent No. 4,644,641). In sustaining this rejection, the Examiner stated the following:

Hamilton shows all the features of claim 1 as shown above except for a pad with a V-shape. Verdone shows a figure 12A a pad with a V-shape that has a narrow part of said V-shape pointing in the general direction of relative motion between a head and a medium. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the V-shaped pad of Verdone on the recording head of Hamilton. The rationale is as follows: One of ordinary skill in the art would have been motivated to use the V-shaped pad of Verdone in the recording head of Hamilton since it deflects dirt particles to either side of the slider which keeps the slider clean. (Pages 4-5.)

Hamilton discloses a read/write/head/flexure/conductor structure designed for continuous sliding contact with the recording medium:

Specifically, an object of the invention is to provide a unique read/write structure which is orders of magnitude smaller in size and mass when compared with today's counterparts – a structure which is capable of non-catastrophic, continuous sliding contact interaction with the surface of a relatively moving recording medium. (Col. 2, lines 46-52.)

The structures shown herein are so significantly reduced in size and mass, that experience has shown that they can be used for direct, continuous, sliding contact operation with a recording medium, virtually free from catastrophic wear. (Col. 5, lines 15-19.)

The structure of the present invention can be used in direct, continuous contact with the surface of a relatively moving medium without any appreciable tendency to produce damaging wear. (Col. 8, lines 28-32.)

Verdone, on the other hand, discloses a delta slider designed to fly above the recording medium:

A "Delta slider" for flying a magnetic head on a fluid bearing above moving magnetic recording medium is disclosed . . . (Col. 1, lines 5-7.)

An object of this invention is to provide a novel and improved air bearing slider for a flying magnetic head assembly that maintains a substantially constant spacing relative to a moving magnetic medium during transducing operation. (Col. 1, lines 37-41.)

Some novel features of this delta slider (ABS) appear to be:

1. CLEAN: A triangular or "Delta" shape (in plan-cross-section) together with a properly pitched flying attitude (leading edge flies at greater height than trailing edge above media) appears to give this design a particular self-cleaning aspect. Any dirt particles encountered (at the head-disk interface) will likely be deflected to either side of the slider. (Col. 8, lines 57-63.)

Thus, the read/write/head/flexure/conductor structure in *Hamilton* is designed for continuous sliding contact with the recording medium, whereas the delta slider in *Verdone* is designed for flying above the recording medium and provides self-cleaning as the leading edge flies at a greater height than the trailing edge. If the structure in *Hamilton* were modified in accordance with the delta slider in *Verdone*, then the structure in *Hamilton* would fly above the recording medium and be rendered unsatisfactory for its intended purpose.

If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. See M.P.E.P. § 2143.01 (seventh edition, page 2100-112).

The Office Action also discussed other prior art:

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Matsumoto is cited to show a V-shaped slider.

Coughlin et al is cited to show a V-shaped portion of a slider in figure 1.

In *Matsumoto* (Japanese Patent No. 1-29858), the slider has a gas inflow end side 6 (the leading edge) and an outflow end side 7 (the trailing edge), however there is no teaching or suggestion that a pad (claim 1) or rail members (claim 5) have a leading edge with a narrower width than the trailing edge.

In *Coughlin* (U.S. Patent No. 4,700,248) the V-shaped section between slots 26 and 28 is neither a pad (claim 1) nor a rail member (claim 5). Furthermore, in the '234 application, the Decision by Board of Patent Appeals and Interferences dated September 22, 1999, provided the following remarks about *Coughlin* in reversing the rejection of claims 7 and 8:

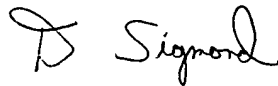
Dependent claim 7 recites that the load-bearing surface is tapered with its narrow end facing into the relative motion of the magnetic recording disk for the deflection of magnetic disk surface debris. Claim 8 depends from claim 7 and recites that the tapered surface has a uniform taper. The examiner relied upon Coughlin to teach those features of claims 7 and 8.

Coughlin shows in Figures 1 and 2 a head assembly with a contoured load-bearing surface 20 with a pair of angled pressure relief slots 26 and 28 formed in the surface 20. It is the section formed between slots 26 and 28 that the examiner maintains is the tapered load bearing surface. We disagree. The entire contoured face 20, including the portions surrounding the angled slots, constitutes the load-bearing surface in Coughlin. Note that in column 4, lines 41-44 of Coughlin, it is stated: "It is this surface 20 of assembly 10 that is adapted to confront the rotating recording surface of the disk and interact with the air bearing layer to provide assembly 10 with its flying characteristics." Moreover, it is not seen how the tapered slots of Coughlin can be used to carry out their intended functions as the load-bearing [sic] surface without

the presence of the load bearing surface portions surrounding them. In our view, the load bearing surface of Coughlin cannot reasonably be regarded as solely the portion between the slots. Accordingly, Coughlin's load bearing surface is not tapered "with its narrow end facing into the relative motion of the magnetic recording disk" as is recited in claim 7. Both ends appear to have the same width. In any event, even if it is assumed for purposes of argument that only the angled-slots section constitutes the load bearing surface, the presence of the outer portions of contour face 20 would seem to keep the tapered load bearing surface from being able to deflect surface debris as is recited in claim 7.

The captioned-application is believed to be in condition for allowance. Should any issues arise, the Examiner is encouraged to telephone the undersigned attorney.

Respectfully submitted,



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